TSR 3300

Fully Digitized HF COMINT Receiver

- Advanced 3rd generation receiver
- A foundation for all existing COMINT/DF systems
- Built-in fully digital processing
- Multi-protocol and fast on-the-fly signal acquisition and processing
- Adaptive tracking, selection and signal characteristics
- Rapidly updates system settings to match protocol updates
- Enables system frequency reuse by handling large numbers of simultaneous signals in dense multi-user signal environments
- Monitors multiple channels simultaneously

Overview

The effectiveness of today's ongoing friendly communications is being seriously challenged by the hostile use of modern communications signals, aimed at disrupting COMINT and COMJAM tasks.

In response, Elbit Systems EW and SIGINT-Elisra has developed the TSR 3300 – a 3rd generation, fully digitized, HF multi-protocol receiver – creating a common foundation for all existing COMINT/DF and COMJAM systems.

The TSR 3300 receiver – based on advanced technology and delivering a flexible configuration for ground and airborne COMINT & COMJAM missions – represents a definitive, proven solution for today's threat environment. The receiver processes multiple, diverse in-band, signals concurrently – utilizing separation, dynamic range and advanced digital processing. The TSR 3300 simultaneously monitors multiple channels, thereby carrying out the tasks of several separate receivers - with additional receivers easily added.

Featuring exceptionally high processing capacity, the system includes 2 VIRTEX 5 and Power PC processors. All-in-one, modular and connected via a standard PCI BUS, the TSR 3300 enables mission-specific configurations that require no additional computing sources. Setting a standard of its own as it operates within a wide 1.5-30 MHz frequency, the TSR 3300 boasts a very high level of spectrum scanning with instantaneous bandwidth of up to 12 MHz. The receiver employs direct sampling capabilities in order to achieve a high scanning rate, thus enabling a rapidly available mission theater picture.

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Operational Applications

Both the engineering and technical properties of the TSR 3300 make this receiver an ideal cornerstone of any COMINT/COMJAM system. Flexible and robust, it is configurable for both ground and airborne applications.

COMINT Applications

- Multiple receiver configurations, avoiding signal congestion
- Concurrent, multiple, diverse in-band signal processing
- Fast response components
- Direct Sampling
- Intra-System receiver connectivity
- Enables system to perform phase and amplitude measurements for advanced communication signal processing and geo-location
- Simultaneous monitoring capability to all available channels

COMJAM Applications

- COMINT attributes benefit COMJAM capabilities due to shared COMINT/COMJAM requirements
- Receiver-supported jamming missions can cope with advanced communication threats
- Fast stabilization of hardware and software components for effective threat signal response

Technical Parameters and Specifications

RF input: Frequency Range:	1.5-30 MHz
Noise Figure 1.5-30 MHz	17 dB
IIP2	+60 dBm
IIP3	+25 dBm In Band, +33 dBm Out of Band
IF Rejection	N/A
Synthesizer tuning speed	N/A
Detection Modes	AM, FM, SSB, CW
Sensitivity	-105 dBm for AM @ 6KHz IF, m=50%, (S+N)N=10 d -113 dBm for SSB @ 3 KHz IF, (S+N)/N=10 dB -119 dBm for CW @ 800Hz IF, (S+N)/N=10 dB
IF Bandwidths (kHz)	According to pre-selected and programmed DDC (direct sampling)
NBIF output (Analog for IFBW>1MHz)	A sample of ADC input through -20 dBc coupler, 50ohm
Analog Audio Output	Audio Line Output
Digital Audio	Up to 12 NB channels
Interfaces:	
Fast Ethernet	10/100/1000 base Tx
PCIe Interface	4 PCIe (gen 1.0) lanes
USB interface	Maintenance Serial interface based on USB2.0 to internal UART (Effective rate up to 3 Mbps)
Operating Temperature	-10°C – +60°C

* All specifications are typical and are subject to change without prior notice

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